UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: 3 OCT 1985

SUBJECT: Amendment to the Jibboom Junkyard Record of Decision - ACTION MEMORANDUM

FROM: Harry Seraydarian
Director, Toxics and Waste Management Division

TO: Judith Ayres
Regional Administrator

Attached for your approval is an Amendment to the Jibboom Junkyard Record of Decision which revises the cleanup level for lead in soil. On May 9, 1985, you signed a Record of Decision for the Jibboom Junkyard site which set the cleanup level for lead at 200 mg/kg, the level we determined to represent the background concentration. This amendment changes the remedial action cleanup level of lead in soil from 200 mg/kg to 500 mg/kg.

At the time the Record of Decision was signed, we were operating under Headquarters guidance that required cleanup to background levels at all sites involving excavation and offsite disposal of contaminated soils. On July 8, 1985, Headquarters issued new guidance which allowed cleanup action levels to exceed background where EPA could demonstrate that the residual contamination poses no threat to public health or the environment. This amendment reflects this recent interpretation of the Landfill and Surface Impoundment Closure Requirements of the Resource Conservation and Recovery Act of 1984 (RCRA) 40 C.F.R. Part 264.111, as approved by the Acting Assistant Administrator for Solid Waste and Emergency Response and the Office of General Counsel.

The proposed action level of 500 mg/kg of lead in soil is sufficient to protect human health and the environment and is fully supported by the State of California and the Office of Regional Counsel. In addition, the 500 mg/kg cleanup level is the level we had intended to use prior to the guidance requiring cleanup to background, and is the level included in the Feasibility Study Report which was fully presented to the public during a three week public comment period. Implementation of this new action level will result in a cost savings of $ 433,000.

Approve John Wise Acting

Disapprove _____

Date 10.4.85

Attachment

AMENDMENT TO THE JIBBOOM JUNKYARD RECORD OF DECISION
Date: October 4, 1985

On February 13, 1985, the Draft Feasibility Study for the Jibboom Junkyard Superfund site, Sacramento, California was distributed to two information repositories. The Executive Summary from the report was sent to all interested parties the same day. The next day, February 14, 1985, the official three week public comment period on the Feasibility Study was commenced. The report stated that one of the site-specific objectives of the remedial action was to "limit human exposure to lead [in soil] to no more than 500 mg/kg." The 500 mg/kg action level was based on protection of public health and the environment, action levels at other Superfund sites. the insignificant cost difference for eliminating exposure to lead in soil at either 500 mg/kg or 1000 mg/kg (the State of California criteria for defining a hazardous waste), and the potential to eliminate exposure to all known polychlorinated biphenyls (PCB's) at the site. None of the fourteen comments made on the study discussed this site-specific action level.

In April 10, 1985 Region 9 was informed by the Office of Solid Waste and Emergency Response that "clean closure" of a Superfund site according to the Landfill and Surface Impoundment Closure Requirements of the Resource Conservation and Recovery Act as amended in 1984 (RCRA), 40 C.F.R. Part 264.111 would require removal of all contaminants above background concentrations. Consequently, the Record of Decision was revised to reflect this new interpretation of a relevant regulation. The Record of Decision which was approved by the Regional Administrator on May 9, 1985 authorized removal and off-site disposal of all soil contaminated with lead at greater than 200 mg/kg (background) at a cost of $1,460,000.

On June 19, 1985 the Acting Assistant Administrator for Solid Waste and Emergency Response was briefed on the Region 6 Crystal Chemical Superfund site. During the briefing, it was decided that contamination at some level greater than background levels could be left behind without the requirement for capping or other closure/postclosure measures. This meant that "clean closure", per 40 C.F.R. Part 264.111, could be achieved by removing all contaminants from a site that may pose a threat to human health or the environment through any route of exposure, such as ground water, surface water, or direct contact. This decision, concurred on by the Office of General Counsel and the Office of Solid Waste, was documented in a July 8, 1985 memorandum from John J. Stanton, Director of the CERCLA Enforcement Division, OWPE, to David Buente, Chief of the Environmental Enforcement Section, Department of Justice.

This amendment to the May 9, 1985 Record of Decision revises one of the site-specific remedial action objectives for lead in soil from 200 mg/kg, the background level, to

500 mg/kg. This action level is sufficient to prevent any contamination from posing a threat to human health or the environment, as recommended by the Centers for Disease Control on November 15, 1984, and as determined by the site-specific engineering analysis performed for the Jibboom Junkyard Feasibility Study. This action level is also consistent with the action level presented to the public for comment in the Feasibility Study. The State of California Department of Health Services and Regional Water Quality Control Board fully support this proposed change to the lead in soil action level.

This change in the lead action level will require that 4,800 cubic yards of contaminated soil be excavated and removed, including two locations below the surface layer of contamination; one at ten feet, and one at five feet. Based on cleanup to the background level, 200 mg/kg, 7,200 cubic yards of contaminated soil, including four subsurface locations, would have required excavation and removal. The total cost savings of this change in the lead cleanup level is estimated to be $433,000.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: 9 MAY 1985

SUBJECT: Record of Decision for a Remedial Action
for the Jibboom Junkyard Superfund Site

FROM: Harry Seraydarian
Director, Toxics and Waste Management Division (T-1)

TO: Judith E. Ayres
Regional Administrator (RA)

A Record of Decision to select a remedial action (RA) for the Jibboom Junkyard site is attached for your signature. Also attached are briefing documents describing the selection process and the basis for our determination that excavation and offsite disposal is the most cost-effective remedial alternative for the site.

As you know, EPA Headquarters recently delegated the authority to sign certain Records of Decision for remedial actions from the Assistant Administrator for Solid Waste and Emergency Response to the Regional Administrator. Upon your signature, the U.S. Army Corps of Engineers will be given authorization to begin design of the RA. We expect construction to begin within 4 months and to have the project completed by the end of the year.

Based on the Feasibility Study, I request that you sign the Record of Decision selecting excavation and offsite disposal as the cost-effective remedial action for the Jibboom Junkyard site. I am available to discuss this matter in more detail if you have any questions concerning the attached Record of Decision package.

Attachment

Record of Decision
Remedial Alternative Selection

SITE: Jibboom Junkyard, Sacramento, California

DOCUMENTS REVIEWED

My decision is based primarily on the following documents describing the analysis of cost-effectiveness of remedial alternatives for the Jibboom Junkyard:

- Study entitled "Draft Feasibility Study, Jibboom Junkyard, Sacramento, California," February, 1985.
- Summary of Remedial Alternative Selection.
- Community Relations Responsiveness Summary.

DESCRIPTION OF SELECTED REMEDY

- Excavation and removal of contaminated soils to a RCRA-approved offsite, Class 1, hazardous waste disposal facility.

DECLARATIONS

Consistent with the Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA), and the National Contingency Plan (40 CFR Part 300), I have determined that excavation and offsite disposal of contaminated soils at the Jibboom Junkyard is a cost-effective remedy adequate to protect public health, welfare, and the environment. The State of California has been consulted and fully supports the approved remedy.

I have also determined that this action is appropriate when balanced against the availability of Trust Fund monies for use at other sites. In addition, the offsite transport and secure disposition of contaminated soils is more cost-effective than other remedial actions, and is necessary to protect public health, welfare and the environment.

5.9.85
Date

John Wise
JUDITH E. AYRES
for Regional Administrator
U. S. EPA Region 9

Record of Decision
Concurrence Page

Site: Jibboom Junkyard, Sacramento, California

The attached Record of Decision package for the Jibboom Junkyard, Sacramento, California has been reviewed and I concur with the contents.

09 MAY 1985
Date

Karl R. Morthole
Regional Counsel

5/9/85
Date

Harry Seraydarian
Director, Toxics and Waste
Management Division

5/9/85
Date

Frank M. Covington
Director, Water Management
Division

5/9/85
Date

David P. Howekamp
Director, Air Management Division

SUMMARY OF REMEDIAL ACTION SELECTION

JIBBOOM JUNKYARD
Sacramento, California

SITE LOCATION AND DESCRIPTION

The Jibboom Junkyard site is located in Sacramento, California on the east bank of the Sacramento River (see Figure 1). The site is approximately 2000 feet downstream from the confluence of the American and Sacramento Rivers. The nine acre site is the former location of the Associated Metals Company salvage yard. The majority of the site, 6.7 acres, is now covered by Interstate 5 and the adjacent Jibboom Street. The remaining portion of the site, 2.3 acres, is a relatively flat open field, with one cluster of trees and no other surface structures or other objects present.

The site lies within the 100 year floodplain of the Sacramento River. However, a California Department of Water Resources, Sacramento River Flood Control Project levee helps to protect the site from potential flooding.

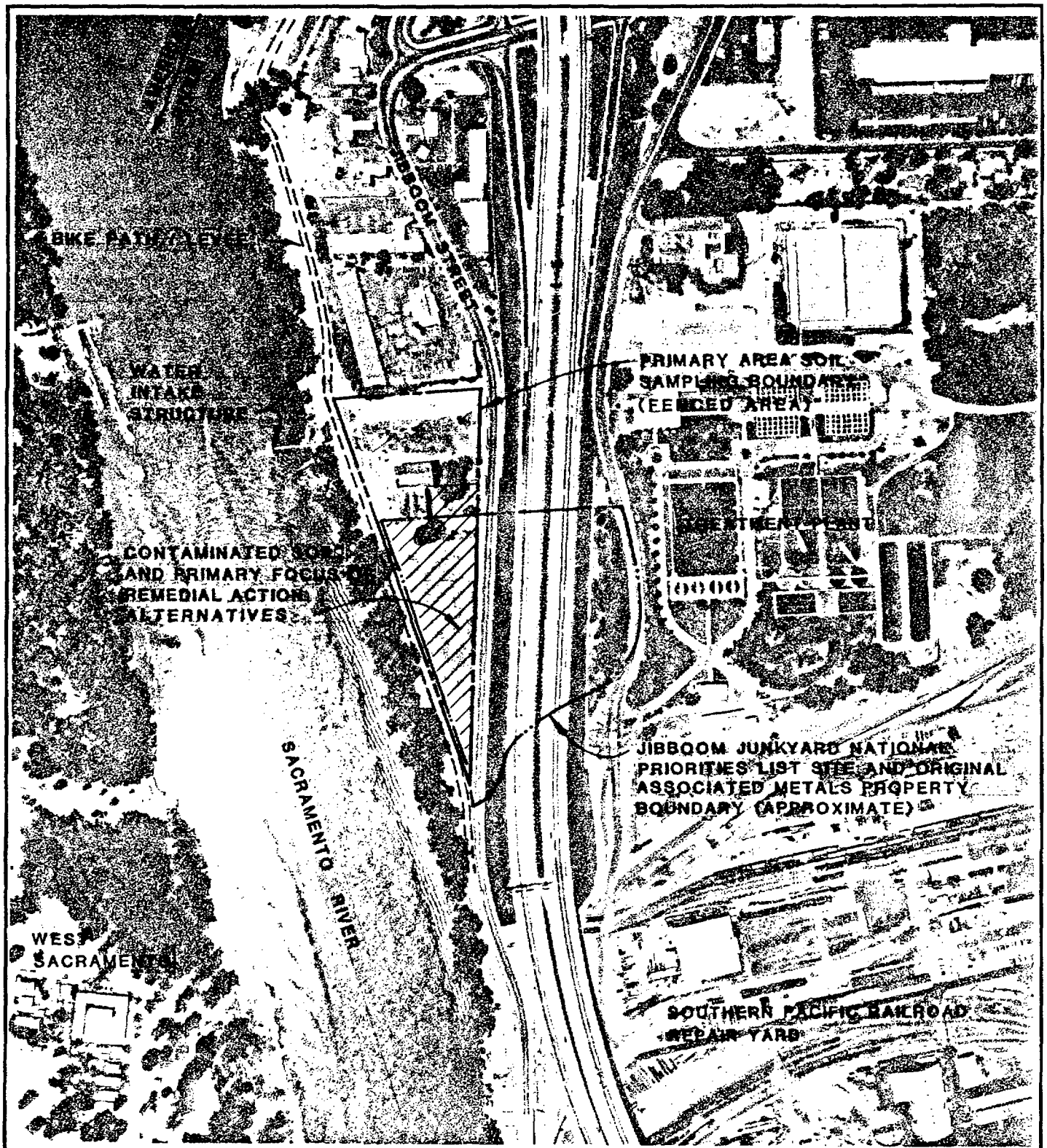
Situated in an industrial part of town, the site is approximately 4,000 feet from Old Sacramento, a historic downtown area, and approximately 6,000 feet from the State Capitol Building.

At the northern edge of the site is an abandoned Pacific Gas and Electric Company (PG&E) steam electric power generating station that was constructed in 1912. Several motels are located to the north of the site along Jibboom Street. The closest of these motels is 400 feet from the site. A water intake structure is located 400 feet northwest of the site and 100 feet west of the levee bank of the Sacramento River. This intake supplies water to the City of Sacramento Filtration Plant. This water filtration plant provides water for up to 50 percent of the city's population, approximately 145,000 people in downtown, western, and southern Sacramento. The filtration plant itself is 550 feet east of the uncovered portion of the site.

Four hundred feet south and east of the site is a heavily industrialized area that has been in operation since the 1860's. Along the western edge of the site, on top of the levee, is a heavily used bike path constructed in 1983 as part of the Sacramento and American River Bikeway.

There are no homes in the vicinity of the site. The only known residents in the area are members of a family who reside in a motel at the northern edge of the site.

Groundwater beneath the site is used for industrial



Scale: 1" = 400 ft
Date: June 28, 1984

FIGURE 1

JIBBOOM JUNKYARD SITE AND SURROUNDINGS

purposes only. There are no potable or agricultural uses of the groundwater in the area. The water is hydraulically connected to the Sacramento River. The river serves as a hydraulic connection, and presumably a barrier, to the potable groundwater that is on the western side of the Sacramento River. The groundwater beneath the site rises to within five feet of the ground surface for up to six months of the year. Flow direction is presumed to fluctuate biannually according to the river stage.

Surface water over the covered portions of the site are collected in ditches on both sides of the freeway. This water is then pumped into the American River. Surface water from the remaining areas of the site either percolates into the ground or evaporates.

SITE HISTORY

The site is named for an unofficial landfill that was operated between the 1930's and the early 1970's along Jibboom Street to the north of the actual site. The nine acre site which was ranked for the National Priorities List (NPL) is defined by the boundaries of the operations at the now defunct Associated Metals Company yard.

In 1863, Southern Pacific Transportation Company (SP) began operations at a 200 acre yard approximately 400 feet southeast of the site. This facility is a major locomotive overhaul facility for SP, and has historically handled large amounts of solvents, paints, sand blasting wastes (including wastes containing lead), petroleum, oils, and lubricants. In response to regulatory agency concern regarding the disposal of some of these materials, SP has begun an extensive soil and groundwater monitoring program.

In 1912, PG&E constructed a steam electric power generating station north of the site. The station consisted of the main power generating building, three 12,000 barrel oil aboveground storage tanks on concrete pads with retaining walls, and two 200 barrel underground storage tanks. In 1957, PG&E ceased operations at this plant. By 1967, the three aboveground storage tanks had been dismantled and removed. The now historic PG&E building and the two underground storage tanks remain in place.

Sometime prior to 1928, the City of Sacramento constructed a water filtration plant 150 feet due east of where the site would be located. This plant mixes treated water from the American and Sacramento Rivers to supply all 290,000 residents of Sacramento.

A 1928 aerial photograph indicates that the Jibboom site was still wooded. By 1946, the original Jibboom Street alignment had been paved and the entire site had been cleared of trees. Disposal activities at the site were not evident.

In 1950 or 1951, the property south of the power plant was purchased by the Associated Metals Company. The property was used for a metal salvage operation from this time until 1965. All grades of metal were salvaged, including railroad cars, army tanks, batteries, and some transformers. Although no inventories or records of operations at the yard are known to exist, a former employee indicated that there was on-site disposal of scrap metal as well as some direct discharge of transformer oils to the ground. Transformers were not frequently scrapped. This employee, who was the yard foreman, and historical aerial photographs, have been the only sources of information regarding releases of hazardous materials at the Associated Metals yard.

In 1965, the State of California Department of Transportation purchased all of the Associated Metals Company property for easement and construction of I-5. No soils were removed, but the site was graded during freeway construction. By 1967, Jibboom Street was realigned to the present location.

Between 1981 and 1985, EPA and the State of California Department of Health Services (DOHS) performed extensive on and offsite surface and subsurface soil sampling. In 1984, DOHS constructed a fence around the site. There have been no other response or enforcement activities to date.

CURRENT SITE STATUS

Results of the seven EPA and DOHS sampling efforts indicates that there is extensive lead, zinc, and copper contamination onsite. Most of this contamination is limited to the top one foot of soil, and no offsite contamination has been detected. Subsurface contamination above background levels was only detected at four locations. PCB's were detected in the top foot of soil throughout the site, however, the levels detected did not exceed the state or federal criteria for the definition of a hazardous substance, 50 ppm PCB's.

Lead is a Resource Conservation and Recovery Act of 1976 (RCRA) Appendix VIII listed compound, hence its presence at any concentration above background identifies the material as hazardous. According to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 101, any soil containing lead at greater than background concentrations is also a CERCLA hazardous substance. Lead zinc, and copper have all been detected at concentrations greater than the California Assessment Manual (CAM) criteria for the definition of a hazardous material, which are, for total metal concentrations (Total Threshold Limit Concentration, or TTLC) 1000 ppm, 5000 ppm, and 2500 ppm respectively. Federal action levels or criteria do not exist for zinc or copper.

In the top foot of soil, total lead was found at concentrations up to 13,600 ppm, total zinc at concentrations up to 19,700 ppm, and total copper at concentrations up to 3450 ppm. Of the four subsurface locations that were contaminated above background or state action levels, two were contaminated to ten feet, one was contaminated to six feet, and one was contaminated to five feet. For these four locations, total lead was found at concentrations up to 1,200 ppm (at five feet), total zinc at concentrations up to 18,200 ppm (at five feet), and total copper at concentrations up to 6310 ppm (at five feet).

In 1985, the DOHS conducted surface soil sampling to evaluate the leachability of the metals in the soil. The state tested surface soils where contamination was known to be greatest according to the state's California Assessment Manual (CAM) Soluble Total Limit Concentration (STLC) test. This test is used to determine the leachability of a substance given worst case environmental conditions. The criteria for defining a material as hazardous when using this test is 5 ppm for lead, 250 ppm for zinc, and 25 ppm for copper. [A comparable, but not identical, federal test is the RCRA Extraction Procedure (EP) Toxicity test, by which a material is defined as a RCRA hazardous waste if lead leaches at greater than 5 ppm. RCRA EP Toxicity criteria do not exist for zinc or copper.] Test results indicated that lead was leaching at concentrations of up to 164 ppm, which is 32 times the state and federal criteria. Zinc and copper, which leached at concentrations of up to 356 ppm and 65 ppm respectively, also exceeded the state criteria for identifying a hazardous material.

Data from the Endangerment Assessment chapter of the Feasiblity Study showed that direct contact with contaminated soils at this site could be a health hazard. This is the only known potential health threat posed by the site. Using conservative ingestion rate and risk models, and assuming residential use of the site, increased cancer risks of between 1×10^{-5} and 1×10^{-3} from the ingestion of PCB contaminated soil could be expected. It should be noted that these potentially unacceptable health risks are associated with PCB concentrations in soil which are below federal or state criteria for defining a hazardous substance. Using the same soil ingestion rate models results in exceedance of the federal Acceptable Daily Intake for lead, which is 0.1 mg/day. While lead is not a carcinogen, its consumption by young children has been linked to neurobiological defects, such as learning disabilities and behavioral problems. As exposure levels increase, reproductive effects, such as stillbirths, occur and severe, often irreversible damage develops in the blood forming system, the nervous system, the heart and blood vessels, kidney, and liver.

At the present time, a fence restricts site access. However, this fence is often in disrepair due to vandalism. In the past, truck drivers have used the open area to the north of the site

At the present time, a fence restricts site access. However, this fence is often in disrepair due to vandalism. In the past, truck drivers have used the open area to the north of the site for parking. Trucks are often parked along side of the fence, in areas where the greatest damage appears to be located. Transients have historically used the PG&E building for refuge and continue to do so. These transients are subject to exposure to the contamination at the site. Should the EPA choose no action for this site, a large number of people, including the motel's residents, motel guests, bicylists who use the levee, and the aforementioned truck drivers and transients, would be at risk of direct contact with soils contaminated with unsafe levels of lead and PCB's.

Because this site is one of the last remaining parcels of undeveloped land along the Sacramento River, it is likely that the site would continue to receive active use by the public under the no action scenario.

ENFORCEMENT

All of the contamination at this site appears to be the result of activities by the Associated Metals Company. The company is now defunct and all of its principals have deceased. California Secretary of State records indicate that neither Associated Metals Company nor Associated Iron and Metals, the only known alias of Associated Metals Company, were ever incorporated in the State of California. There are no known or suspected potential responsible parties at this site.

While the State of California and the City of Sacramento currently own all of the land at the site, they were not owners or operators of the site at the time of disposal. Therefore, according to CERCLA Section 104(c)(3), the state is only liable for 10% of the remedial action costs. It is recommended that Trust Fund monies be used to fund the other 90% of the remedial action costs.

ALTERNATIVES EVALUATION

Off-site migration of contaminants is not known to be occurring, therefore, all of the alternatives evaluated for this site are defined as source control measures.

Two objectives were developed for the remedial actions under consideration at this site. In order to protect human health, limiting potential exposure to soils contaminated with lead above 500 mg/kg was the initial objective. This action level is consistent with cleanup objectives at other federal and state Superfund sites involving soils contaminated with lead.

By cleaning up all contaminated soils above 500 ppm lead, potential exposure to all known PCB contamination would also be eliminated. This action level, which was developed for the Feasibilty Study, is not in compliance with RCRA closure requirements for landfills and surface impoundments. Final closure of landfills and surface impoundments, requires cleanup of lead, a RCRA Appendix VIII listed compound, to background levels. Because none of the five exceptions for selecting a remedial action which is not in compliance with all applicable federal laws exists at this site, as specified in the Proposed National Oil and Hazardous Substances Pollution Contigency Plan of February 12, 1985 (Proposed NCP) 40 CFR Part 300.68 (i), a cleanup objective of controlling exposure to lead at greater than 200 ppm, the background level, was developed for this Record of Decision.

A secondary objective is to prevent any potential future groundwater contamination. Although groundwater is not currently used as a potable water supply, this objective is consistent with RCRA landfill and surface impoundment closure requirements, EPA's policy of protection for Class 2 groundwater as identified in EPA's Ground Water Protection Strategy, with California Administrative Code (CAC) Title 23, Subchapter 15 Discharges of Wastes to Land requirements, and with the State of California Regional Water Quality Control Board (RWQCB) concerns.

In order to meet these two cleanup objectives, the following general response actions were developed and evaluated:

- No action
- Containment--capping or encapsulation
- Removal--excavate contaminated soils and dispose of at a RCRA approved offsite Class 1 hazardous waste facility
- Onsite Treatment--incineration, solidification, biological treatment, and chemical treatment
- Offsite treatment--incineration, biological treatment, and chemical treatment
- In situ treatment--soil flushing and neutralization
- Restrict site access and future land use without treatment or removal

Three levels of screening were performed on the remedial action alternatives. First, an initial technology screening was performed to eliminate inapplicable, infeasible, or unreliable technologies. Next, an initial alternative screening, according to the National Oil and Hazardous Substances Contigency Plan of July 16, 1982 (NCP) 40 CFR Part 300.68(h) was performed. Finally, a detailed alternative evaluation, according to the NCP 40 CFR Part 300.68(i) was performed.

INITIAL TECHNOLOGY SCREENING

The general response actions were screened on the basis of engineering judgment and qualitative comparisons. This screening was performed to eliminate inapplicable, infeasible, or unreliable technologies.

All of the remedial technologies associated with treatment were eliminated. This included onsite treatment, offsite treatment, and in situ treatment.

°Incineration, Biological Treatment, and Chemical Treatment--Incineration, biological treatment, and chemical treatment are technologies which could be implemented onsite or offsite. None of these three treatment technologies are feasible when dealing with soils contaminated with heavy metals. Heavy metals are only moderately reduced during incineration, and volume reduction would be relatively low. Biological treatment could result in heavy metals uptake, but the resulting sludge would contain these metals. Nutrient and substrate provisions would be very difficult. Chemical treatment for metals removal in soils has not been demonstrated to be technically or economically feasible.

°Solidification-Solidification would not isolate contaminants from the environment or direct contact unless combined with containment. This would effectively be the same as capping or encapsulation with the added cost of solidifying the waste, therefore, it was eliminated from further consideration.

°In Situ Treatment--In situ soil flushing using water or an acidic solution would be difficult to implement, would have to be operated for an extended period of time, and would increase the level of contaminants in lower soils and in the groundwater. An extraction system would be needed to recover and treat contaminated groundwater. Land use would be restricted during operation of this technology. This alternative would be very difficult and complex to implement and the possibility of successful treatment without leaving contaminated groundwater or contamination in lower soils is relatively small. Therefore, soil flushing was eliminated from further consideration.

In situ treatment by neutralization would not meet the site objectives unless combined with containment. This would effectively be the same as capping or encapsulation with the added cost and difficulty of neutralizing the waste; therefore, this treatment technology was also eliminated from further consideration.

Upon completion of the initial technology screening, the following alternatives remained:

° No action.
° Restrict site access and future land use.

- Cap areas where lead concentrations exceed 500 mg/kg using clay, a flexible membrane, or asphaltic cover. Control surface water as needed and revegetate capped areas except for the asphalt cap.
- Excavate soils where lead concentrations exceed 500 mg/kg and dispose of soils at an EPA approved Class I facility.
- Encapsulate soils where lead concentrations exceed 500 mg/kg.

INITIAL ALTERNATIVE SCREENING

Before the remaining alternatives were developed in detail, an initial alternative screening, according to the NCP, 40 CFR Part 300.68(h), was conducted. Alternatives that posed a significant adverse environmental impact, that did not adequately protect the environment, public health or public welfare, were not feasible, were not applicable, were not reliable, or that cost significantly more than other alternatives without providing significantly greater environmental or public health benefits were eliminated.

At this time, alternatives were screened for application to the eastern, 6.7 acre, portion of the site which is covered by I-5 and Jibboom Street. Because of the high cost of performing remedial actions under the covered portion of the site and the minimal environmental and public health benefits that would be realized, no alternatives were developed. All potential alternatives would cost an order of magnitude greater than those developed for the covered portion of the site. Historical records and discussions with a previous foreman at the yard indicated that mostly storage and little waste disposal occurred in the eastern portion of the site. Furthermore, construction details and discussions with the Engineer-in-Charge of contruction of I-5 and Jibboom Street indicated that soils from the Associated Metals yard were not removed during roadway construction. These road surfaces, with up to two inches of asphalt and concrete, extensive drainage systems, vegetated side slopes, and regular long term maintenance are effective caps for sites containing inorganic wastes, such as are present at Jibboom. Also of significance are the results of an ongoing groundwater monitoring program at a nearby facility which indicates that because of the river's influence on the water table, groundwater beneath the freeway portion of the site is up to 3.5 feet lower than beneath the western portion of the site. Therefore, groundwater is unlikely to submerge any contaminants that might be present at depth. In summary, the costs of performing remedial actions far outweigh the minimal environmental and public health benefits that could be achieved by performing any remedial actions. Hence, per the NCP, 40 CFR Part 300.68(h), alternatives were not developed for the covered portion of the site.

The remaining alternatives were developed for application to the uncovered 2.3 acre portion of the site and a partially contaminated 0.4 acre parcel of land to the north of the site. DOHS and RWQCB concur with the focused scope of response actions for this site.

According to the Proposed NCP, 40 CFR Part 300.68(f), alternatives must be developed which fall into five catagories. These catagories, and the alternatives that are in each catagory, are shown in Table 1. No alternative was developed which exceeds applicable or relevant federal public health or environmental standards since none could reasonably be developed.

The following alternatives were eliminated according to the NCP, 40 CFR Part 300.68(h):

° No action--The no-action alternative would allow any type of future use of the site, including residential, and would do nothing to prevent site access. Therefore, direct contact with contaminated soils by the public would remain a risk. As described in the Endangerment Assessment chapter of the Feasibility Study, such potential exposure is an unacceptable public health risk. However, while this alternative does not meet the objectives developed for this site, it was carried through the detailed alternative evaluation as a baseline comparison.

° Restrict site access and future land use--While implementation of this alternative could meet the immediate public health objective for this site (reducing the potential for direct contact with contaminated soils), it would do nothing to protect groundwater. Furthermore, according to DOHS, which installed and maintains the present fence, continuous maintenance is a problem. The fence is often in disrepair. This may be due to the historical usage of the site by transients and commercial truckers. Sufficient data do not exist to estimate acute exposure risks for site intruders. However, an analysis of chronic exposure levels indicates that living on the site for as little as 10 percent of a lifetime may result in exposure exceeding recommended levels. Protection of public health cannot be demonstrated by implementation of this alternative; hence it was eliminated from further consideration.

DETAILED ALTERNATIVE EVALUATION

The remaining alternatives were analyzed in detail according to the NCP, 40 CFR Part 300.68(i). Alternatives were evaluated in terms of cost, technical concerns, public health concerns, and environmental impacts. The following discussions describe this detailed analysis.

Table 1

JIBBOOM JUNKYARD REMEDIAL ACTION ALTERNATIVES

ALTERNATIVES REQUIRED TO BE DEVELOPED*	ALTERNATIVES DEVELOPED			
	CAPPING	REMOVAL	ENCAPSULATION	NO ACTION
1. Offsite disposal at a RCRA approved facility		✓		
2. Fully compliant with all applicable or relevant standards, guidance, and advisories		✓	✓	
3. Exceeds all applicable or relevant standards, guidance, and advisories				
4. Meets all CERCLA goals but is not fully compliant	✓			
5. No action				✓

* per proposed NCP 40 CFR Part 300.68 (f) of February 12, 1985 and Guidance Document for Feasibility Studies Under CERCLA of February 1, 1985

° Capping--Capping the site with clay, asphalt, and a flexible membrane liner were all considered. For each of these sub-alternatives, the site would be graded and runoff collector ditches along the sides of the site would be constructed. For the asphalt and membrane caps, various fill material would be placed between site soils and the cap. Clean soil would be then placed on top of the cap with each sub-alternative. The soil would be hydroseeded to help establish vegetation.

Capping the site would cost between $299,000 and $385,000, depending on the type of material used. While this alternative would be effective in preventing direct contact with contaminated soils, it relies on proper long-term operation and maintenance (O&M) for continued protection. This alternative would prevent further groundwater contamination from water percolating downwards through the contaminated soil column, but it would do nothing to prevent the water table from rising into the contaminated soils from below. Hence, metals could still leach into the groundwater and offsite migration of contaminants could occur. Capping, therefore, only meets one of the site objectives. Capping does not comply with relevant or applicable federal and state laws (see CONSISTENCY WITH ENVIRONMENTAL LAWS section).

Capping is a proven and reliable technology which has been used at many other hazardous waste sites. Construction time is estimated to be three months. Potential health and safety concerns related to construction activities could be addressed by implementation of proper construction practices and stringent health and safety requirements.

° Excavation and offsite disposal--Soils with lead concentrations above 200 mg/kg would be excavated and disposed of offsite at a RCRA approved Class 1 hazardous waste facility. The site would then be sampled to determine if more excavation was required. The site would then be graded to existing conditions with clean soil. This soil would be hydroseeded to establish vegetation.

Excavating the contaminants for disposal at a RCRA approved Class 1 hazardous waste disposal facility would cost $1,460,000. A disposal facility in Benicia, California that is acceptable to the EPA Region 9 RCRA/CERCLA Workgroup has been chosen as the waste disposal site. Implementation of this alternative would provide permanent, reliable, protection of public health and groundwater with no reliance on proper O&M. This alternative meets both site objectives and complies with all relevant and applicable federal and state laws (see CONSISTENCY WITH ENVIRONMENTAL LAWS section).

Excavation and offsite removal is a proven and reliable technology which has been used at many other hazardous waste sites. Construction time is estimated to be two months with

no major on-site safety concerns that could not be addressed by proper contruction practices. Application of stringent health and safety requirements would help prevent potential health risks during offsite transportation of the contaminated soils.

° Encapsulation--Encapsulation would require that all contaminated soils be excavated and stockpiled elsewhere on site. Clean fill would be placed in the ground and graded to create a uniformly sloping cell with the bottom at the current ground surface. A double liner of clay and a flexible membrane and a leachate collection system would be placed on the exposed ground surface, the contaminated soil would then be placed on top of the leachate collection system. Another flexible membrane liner would be placed over the soil and would be completely sealed with the bottom liner. A gas vent system would be incorporated with the top liner. Clean soil would be placed over the top of the cell and hydroseeded to establish vegetation.

Encapsulation of contaminated soils would cost $1,200,000. Encapsulation would prevent all potential exposure to contaminants at the site and would help prevent potential groundwater contamination. Like capping, however, this alternative relies on proper long-term O&M to ensure its effectiveness. O&M could be difficult to perform since half the cap would be buried under the contaminants. The useful life of this alternative is approximately 30 years, at which time the entire encapsulation system would have to be replaced. The cost of replacing the flexible membrane liner is not included in the cost of this alternative since the operable unit is likely to last somewhat longer than thirty years due to the lack of highly acidic or basic fluids at the site. This alternative would meet both of the site specific objectives and would comply with all relevant or applicable federal and state laws (see CONSISTENCY WITH ENVIRONMENTAL LAWS section).

Encapsulation is a proven and reliable technology which has been used at many other hazardous waste sites. Construction, which would take approximately four months, would be the most difficult for this alternative. Safety and health concerns are greatest with this alternative since contaminated material would have to be excavated, stored on site, then replaced into the on-site containment cell. These potential health and safety concerns could be addressed by implementation of proper construction practices and stringent health and safety requirements.

° No action--There are no costs associated with the no action alternative. However, this alternative would not prevent direct contact with contaminants nor would it prevent potential groundwater contamination. This alternative, which does not meet either of the site specific objectives, is not in compliance

with applicable federal and state laws (see CONSISTENCY WITH ENVIRONMENTAL LAWS section).

Table 2 summarizes the technical, environmental, public health, O&M, and cost concerns for these four remaining alternatives.

COMMUNITY RELATIONS

There has been relatively little community concern with this site. Of the fourteen comments received on the Draft Feasibility Study, eight were from state or local agencies, four were from or for private developers, one was from a company which owns land adjacent to the site, and one was from a citzens' action group. Ten of the comments expressed a preferance for excavation and offsite disposal of the contaminants, two commentors did not express an opinion on any of the alternatives, one commentor suggested another alternative, and one commentor expressed a preference for no action.

There is no residential property in the vicinity of the site. The only people known to reside near the site inhabit an adjacent motel and have expressed satisfaction with regulatory agency responses to date.

CONSISTENCY WITH ENVIRONMENTAL LAWS

Although operations at this site ceased prior to November 19, 1980, site conditions are such that the Resource Conservation and Recovery Act of 1976 (RCRA) is a relevant regulation. Specifically, RCRA Subtitle C, 40 CFR Part 264 and 265 contain closure requirements for landfills and surface impoundments, as well as groundwater monitoring requirements that would apply to this site except for the legal technicality of the trigger date identified in RCRA Subtitle C, Section 3005(e). Under RCRA, the site could not be left in its current state without some form of remedial action. In order to comply fully with all relevant or applicable portions of RCRA, immobilization of the contaminants must be assured: any offsite migration of contaminants would be unacceptable. Only encapsulation or offsite removal can assure that contaminants will not migrate offsite. Neither capping nor no action can prevent groundwater from rising into the contaminated zone and leaching the metals into the groundwater: capping and no action do not fully comply with RCRA.

RCRA Part 264 and 265 would also apply to encapsulation since any onsite redisposal of contaminants would require compliance with the double-liner requirements for new landfill cells. The encapsulation alternative has been designed to be

Table 2

SUMMARY OF EVALUATION OF REMEDIAL ALTERNATIVES

Alternative/Total Cost[a]		O&M Requirements	Public Health Concerns	Environmental Concerns	Technical Concerns
1A Capping with flexible membrane	$350,000	Perpetual Useful life of 1A is 30 years, 1B is 15 years	Eliminates direct contact with contaminated soils. Potential for exposure during construction.	Continued potential for groundwater contamination from the water table rising into the contaminants. Restricts future land use and would potentially reduce nearby property values. Short-term construction-related adverse impacts would include temporary loss of vegetation (wildlife habitat), loss of wildlife (permanent for asphalt cap), air pollution, noise pollution, congestion, and temporary disruption of businesses. Many of these impacts could be mitigated using proper construction methods.	Proven technology Relies on proper long term O+M for continued effectiveness.
1B Capping with clay	$299,000				
1C Capping with asphalt	$385,000				
2 Removal and disposal to SF area	$1,460,000	None	*Eliminates direct contact with* contaminated soils. Potential for exposure during construction.	No restriction on future land use. Short-term construction-related adverse impacts would include temporary loss of vegetation (wildlife habitat), and loss of wildlife. Potential adverse impacts of air pollution, noise pollution, congestion, and temporary disruption of businesses could also occur in offsite areas as contaminants are being transported to the disposal site. Many of these impacts could be mitigated using proper construction activities.	Proven technology
3 Encapsulation	$1,200,000	Perpetual Most diff. to perform proper O+M Useful life is 30 years.	Eliminates direct contact with contaminated soils. Potential for exposure during construction.	Restricts future land use and would potentially reduce nearby property values. Short-term construction-related adverse impacts would include temporary loss of vegetation (wildlife habitat), loss of wildlife (permanent for asphalt cap), air pollution, noise pollution, congestion, and temporary disruption of businesses. Many of these impacts could be mitigated using proper construction methods.	*Proven technology* Relies on proper long term O+M for continued effectiveness. Most difficult and complex to construct.
4 No action	0	None	Continued potential for direct contact with contaminated soils onsite.	Does not reduce potential for future migration of contaminants to groundwater, surface water, or released to the air.	

[a] Total costs include present worth of O&M costs based on a 30-year period.

compliant with these RCRA requirements.

The groundwater under the site is considered Class II groundwater under the EPA Ground Water Protection Strategy (GWPS). Such a classification indicates that the water is a current or potential source of drinking water or has other beneficial uses. The water beneath this site is not currently a potable water source, yet it is being used for industrial purposes. According to the GWPS, the goal of remedial actions for this site should be to maintain drinking water quality or background levels. The capping alternative, which prevents surface water from percolating down through the contaminated soils into the groundwater, does nothing to prevent groundwater from rising up into areas with contaminated soils. The capping and no action alternatives do not, therefore, comply with the GWPS. The encapsulating and removal alternatives, which eliminate the potential for contaminants to migrate into the groundwater, are fully compliant with the GWPS.

Any applicable Occupational Safety and Health Administration requirements will be addressed during the detailed design phase of the selected alternative. Department of Transportation Hazardous Material Transport Rules will be complied with during the offsite transportation of hazardous materials for the removal alternative.

The Toxic Substances Control Act of 1976 (TSCA) would not apply to this site since PCB's are not present at concentrations greater the 50 ppm, the concentration at which a substance is defined as a hazardous material and at which TSCA regulations begin to apply.

No other relevant or applicable federal laws, regulations, requirements, advisories, or guidances are known that might pertain to the remedial actions which were evaluated for this site.

The primary state laws which apply to this site are Title 22 and Title 23 of the California Administrative Code (CAC). Title 22 contains the California Assessment Manual criteria for defining a hazardous material (see CURRENT SITE STATUS). Regulations regarding the storage, treatment, transportation, and handling of hazardous material are also contained in this portion of the CAC.

The recently adopted Chapter 3, Subchapter 15 of CAC Title 23 is applicable to this site. Subchapter 15 specifies minimum standards for siting and management of landfills and waste piles. Although variances can be obtained, wastes at sites like Jibboom must be seperated from the uppermost aquifer by a minimum of 20 feet of clay permeable to less than 10^{-7} cm/sec. At the discretion of the state, groundwater monitoring may also be required. Removal and encapsulation fully comply with these regulations. Variances would be required if capping or no action were chosen. However, DOHS and RWQCB have indicated that a variance would probably not

be available for this site given the leachability of the contaminants and the depth to groundwater.

According to the Proposed NCP, 40 CFR Part 300.68 (i), remedial actions must comply with all relevant and applicable federal laws and regulations unless one of five exceptions apply. None of those five exceptions apply to this site. This guidance also specifies that state standards shall be used in determining the appropriate remedial action.

RECOMMENDED ALTERNATIVE

The recommended alternative is excavation and offsite disposal at a RCRA approved Class 1 hazardous waste disposal facility for all soils contaminated with lead above 200 ppm. This action will address all public health concerns by eliminating the potential for direct contact with soils contaminated by lead and PCB's. No other contaminants are known to exist at the site in levels which may present a threat to human health. Removal will ensure protection of groundwater by removing those contaminants that could potentially migrate into the groundwater. This alternative complies with all relevant or applicable federal and state laws, standards, and guidance.

Excavation and offsite removal is consistent with the cost-effectiveness requirement of the NCP, 40 CFR Part 300.68(j). Unlike capping, removal will ensure protection of the environment. Sampling in March 1985 showed that copper, lead, and zinc are leachable at up to 33 times the federal and state criteria for defining a hazardous waste. Therefore, capping and no action, which permit groundwater to come into contact with the deepest contaminants at the site, may not provide adequate protection of groundwater beneath the site.

Encapsulation also complies with all applicable or relevant laws, and can provide a degree of protection equal to removal. Encapsulation costs slightly more than removal. However, because the cost estimates developed for the Record of Decision are order of magnitude estimates and have an accuracy of +50, -30 percent, the removal and encapsulation alternatives should be compared as if the cost of implementation were equal. Because of several drawbacks with the encapsulation alternative, as explained below, excavation and offsite disposal is the recommended alternative.

Encapsulation relies on proper O&M to provide continued human health and environmental protection. The contaminants of concern present at this site, lead and PCB's, are very stable and are unlikely to break down for long periods of time. These contaminants are likely to remain at the site long after the required 30 years of O&M is over. Burrowing rodents, extensive

site use, and natural degradation are all factors that can reasonably be anticipated to contribute to top or bottom liner failure once required O&M is completed.

Complete replacement of the encapsulation alternative will be required every 30 years, the projected useful life of the flexible membrane materials. This replacement is unlikely to occur after the required 30 years of O&M is over and, as described above, the site is likely to still present a threat to human health and the environment.

Most commentors consider encapsulation (as well as capping and no action) unacceptable. There is a great deal of interest in developing the site and there is a very high probability that such development will require soil borings and construction into subsurface soils. Any development would therefore require the capping or encapsulation alternatives to be completely dismantled. If development were to proceed, contaminated soils would require offsite disposal, or construction of another on site encapsulation cell, space permitting. If EPA choose encapsulation, and onsite development were to occur, redundant remedial actions would be performed.

Encapsulation is also the most difficult alternative to implement. There are not many qualified contractors with experience in installing flexible membranes, as would be required for the top and bottom liners. The leachate collection system, the gas vent system, and the completely enclosed nature of this encapsulation unit are all aspects of this technology which make this alternative very complex and difficult to install correctly.

Because of the considerations described above, removal, which effectively costs the same as encapsulation to implement, is determined to be the cost-effective remedy for this site.

OPERATION AND MAINTENANCE (O&M)

There are no O&M requirements for the recommended alternative. O&M activities for the other alternatives consists of surface vegetation maintenance to prevent erosion and repair of the cap if erosion occurs. The asphalt cap would not be vegetated, yet it would have to be checked for cracks and would require a major overlay approximately every 15 years. The flexible membrane cap and the encapsulation with flexible membrane alternatives have useful lives of approximimately 30 years. At that time the entire cap system will require replacement. The capping alternatives may require installation of a fence and monitoring wells.

SCHEDULE

° Approve Remedial Action (sign ROD)	May 9, 1985
° Enter Interagency Agreement with Corps of Engineers for Remedial Design	May 9, 1985
° Award State Superfund Contract for Remedial Design and Remedial Construction	June 21, 1985
° Enter Interagency Agreement with Corps of Engineers for Remedial Action	June 21, 1985
° Complete Remedial Design	August 6, 1985
° Start Remedial Action Construction	October 1, 1985
° Complete Remedial Action Construction	December 3, 1985
° Delete Site from National Priorities List	June 3, 1986

FUTURE ACTIONS

Once this Record of Decision is signed, EPA will enter into an Interagency Agreement with the Corps of Engineers for design of the selected remedial action. Negotiations with the state will then begin on the State Superfund Contract. Prior to the completion of the design of the selected remedial action, at the time when an accurate cost estimate is available, EPA will enter into an Interagency Agreement with the Corps of Engineers for construction of the remedial action. Construction is expected to take approximately two months. Within six months of the completion of construction activities, the site is expected to be deleted from the National Priorities List.

COMMUNITY RELATIONS RESPONSIVENESS SUMMARY

JIBBOOM JUNKYARD
Sacramento, California

INTRODUCTION

The purpose of this responsiveness summary is to document the following items for the public record: (1) the concerns and issues raised by private citizens and governmental agencies during the remedial planning process, (2) comments raised and questions asked during the comment period on the feasibility study, and (3) the response of EPA to these comments and concerns.

COMMUNITY RELATIONS ACTIVITIES

The following community relations activities were undertaken to inform interested parties of the feasibility study process and solicit their comments:

April 1984: Interviews were conducted with local and state agencies, elected officials, an adjacent property owner, and former employees of the metal salvaging operation previously on the site. The purpose of the interviews was to identify the concerns of interested parties for use in preparing the community relations plan.

June 1984 to February 1985: During the preparation of the Feasibility Study, contact was maintained with the Department of Health and Services (DOHS) and with the Regional Water Quality Control Board (RWQCB). Remedial action alternatives and water quality issues were discussed.

January 24, 1985: Letters were sent to interested parties, notifying them of the upcoming availability of the Feasibility Study, the public comment period, and the two locations where copies of the Feasibility Study would be available for review.

January 31, 1985: A public notice was placed in the Sacramento Bee announcing the upcoming availability of the Feasibility Study, the public comment period, and the two locations where the Feasibility Study could be reviewed.

February 13, 1985: An executive summary of the Feasibility Study was sent to interested parties summarizing the major findings in the report.

February 14, 1985, to March 7, 1985: Public comment period on the Draft Feasibility Study. Fourteen comment letters or phone calls were received regarding the feasibility study.

March 8 to March 13, 1985: Phone calls were initiated by EPA to individuals and agencies that were expected to be interested in the Feasibility Study but from whom EPA had not yet received comments.

A public meeting to discuss the Feasibility Study was not held because during the interviews in April 1984 the level of interest in the site was found to be relatively low. Other community relations techniques were judged to be more appropriate in disseminating information and soliciting comments.

CONCERNS RAISED PRIOR TO THE FEASIBILITY STUDY COMMENT PERIOD

The comments and concerns received prior to the feasibility study comment period consisted of those raised during the interviews held in April 1984. These are summarized below.

WATER QUALITY

Comment: Several interviewees were concerned about current or potential contamination of the groundwater under the site or contamination of the Sacramento River adjacent to the site. This was of particular concern because a Sacramento city water intake is located near the site.

Response: EPA and the state have concluded that past groundwater contamination, the subsequent contamination of the Sacramento River, and the City potable water supply were unlikely because:

- The soil column below 5 feet is relatively free of contaminants, indicating groundwater contamination to date is unlikely to have occurred.
- The large amount of flushing (from river water) in the area, combined with low levels of subsurface soils contamination, reduces the possibility that significant groundwater contamination has occurred in the past or that contaminants are still present in the groundwater.
- Many other industrial locations in the area are potential contributors to groundwater pollution, which would make it difficult to attribute existing contamination to the site.

- Groundwater testing by a nearby facility shows that there has been no significant contamination by copper, lead, or zinc, the contaminants of concern at the Jibboom site.

- The City of Sacramento water filtration plant regularly tests its water and has not found any elevated metals concentrations in the water taken from the Sacramento River.

- EPA will consider the potential impact of any remedial action on the groundwater and surface water in the area.

FUTURE DEVELOPMENT

Comment: Several people were also concerned about whether the site would be suitable for future development. They considered the site to be valuable for private development because it is highly visible, is accessible, is near the Sacramento historic district, and is located on the waterfront. There are several development proposals for the site, and some of the interviewees were concerned that remedial action at the site might preclude future development.

Response: The Feasibility Study addressed these concerns by assessing the effects of each remedial action alternative on the development potential of the site. Alternative 2 (excavation and offsite disposal of contaminated soils) was found to be the only alternative that would not limit future development of the site, and EPA has recommended this alternative as the final remedial action alternative.

JUSTIFICATION FOR REMEDIAL ACTION

Comment: Some people felt the site does not present a great enough hazard to justify the time and money being spent on it and that these resources could better be spent on other environmental problems considered to be more serious.

Response: This issue was also raised during the comment period for the feasibility study. Measured values of contaminants onsite show that the site poses a potential public health threat. Therefore, there is a justification for considering a remedial action at the site.

CONCERNS RAISED DURING THE COMMENT PERIOD AND EPA RESPONSES

The comment period on the Draft Feasibility Study began February 14, 1985, and ended March 7, 1985. Fourteen people or agencies made comments; a list of those who commented is attached.

The comments made are summarized below; copies of the comment letters and phone conversation records are attached. The comments received are categorized below by subject and followed by a response. Ten of the people or agencies who commented made only one comment, which was that they preferred the excavation and offsite removal alternative. Three people commented on water quality issues, and three people commented on issues related to soil contamination. One commentor suggested another remedial action alternative.

COMMENTS CONCERNING THE SELECTED REMEDIAL ACTION ALTERNATIVE

1. Comment/Question: Ten commentors supported the recommended alternative: Excavation and removal. This is the only alternative that would prevent migration of contaminants from the site, protect public health, allow future development of the property, and preserve adjacent property values.

   Response: EPA is recommending Alternative 2, excavation and removal offsite, for the final remedial action at the site.

2. Comment/Question: One commentor suggested that commercial development on the site be allowed in the future under the condition that the developer cover the site with a concrete base, foundation, building, or parking lot. This would serve the same function that a cap would, and it would be less expensive than the excavation and removal or the capping alternative. If there is no immediate interest in developing the site, the site could be paved or otherwise prepared for future development with a surface that would serve as a cap in the short term and a surface over which development could occur in the future.

   Response: There is no way for EPA to evaluate potential future development at the site without a description of the alternative and associated costs. If a developer were to make a proposal with the necessary information, then the alternative could be evaluated. Furthermore, a cap does not address potential submersion of highly leachable contaminants from groundwater rising through near-surface levels.

COMMENTS CONCERNING WATER QUALITY

3. Comment/Question: The selected remedial action should ensure that any surface water drainage from the site does not flow toward I-5. This is a concern because of the possibility for surface water infiltration through

buried contaminated soil under the freeway embankment and frontage road.

Response: EPA agrees. Stormwater controls will be identified during the design of the remedial action. The recommended alternative (excavation and removal) as well as the other two alternatives (capping and encapsulation) would include measures to divert stormwater runoff to the Sacramento River rather than inland toward the freeway.

4. Comment/Question: If the contaminated soil on the 2.3 acres is not removed, protection against any lateral migration of contaminants toward the freeway should be addressed.

   Response: EPA agrees. The excavation and removal alternative will address this concern. In addition encapsulation would also prevent potential lateral migration of contaminants. This would be accomplished by complete isolation of contaminants from the surrounding environment including any water that could serve as the transport mechanism for lateral migration. Capping and no action will not protect against lateral migration of groundwater contamination. This has been considered in our determination of the recommended alternative.

5. Comment/Question: Soluble Threshold Limit Concentrations (STLC) measurements are needed to determine the threat to groundwater from the observed soil contamination. Such sampling could be concentrated in locations where Total Threshold Limit Concentrations (TTLC's) exceed California Assessment Manual (CAM) levels, primarily in Area 2.

   Response: EPA agrees. Soil samples were taken at the site in February 1985 and analyzed for STLC values in March 1985.

COMMENTS CONCERNING SOIL CONTAMINATION

6. Comment/Question: Background soil samples should be taken at another location that is on the same side of the freeway and a similar distance from the freeway as the site. These samples might indicate if part of the surface soil lead contamination could be caused by auto emissions or if other inherent "background" conditions exist near the site.

   Response: Surface and subsurface soil samples were

taken on the east side of the freeway (same side as the site), an equal distance from the freeway as the site. These are surface soil samples No. 1 through No. 5, collected in April, 1983, and subsurface soil samples No. 42 through No. 51, collected in June, 1983. These samples show metals concentrations similar to those found on both sides of the levee, which are considered to represent true background values. Hence, elevated metals concentrations at the site, including the surface lead concentrations, appear to be caused by the previous operations at the site, and not from vehicle emissions.

7. Comment/Question: Were surface soil samples taken from the areas between the frontage roads and the freeway lanes on both sides of the freeway? If these soils are contaminated, remedial action should be proposed to protect motorists and engineering workers who might come into contact with these soils.

   Response: No, these areas were not sampled. The area to the east of the freeway is outside of the fence that demarked the extent of operations at Associated Metals and is currently under clean fill and a vegetative cover. The fill and vegetative cover have been installed as part of the freeway and receive regular maintenance. A review of historical information also indicates that the area between the freeway and the frontage road to the west of the freeway was mostly used for storage and not for actual salvaging. Hence, soil contamination is not expected to be significant. Portions of this area were also covered with clean fill at the time of the freeway and frontage road construction.

COMMENTS CONCERNING THE COVERED PORTION OF THE SITE

8. Comment/Question: The water table could rise and come in contact with contaminated soil that is beneath the freeway, the freeway embankments, and frontage roads. It might therefore be necessary to monitor groundwater quality in the area.

   Response: See response to Comment No. 10.

9. Comment/Question: Why are no remedial action measures being considered for contamination that might lie beneath the freeway?

   Response: See response to Comment No. 10.

10. Comment/Question: It seems inconsistent to discuss the excavation and removal option for the 5.1-acre parcel

when the material beneath Interstate 5 is accepted as being sufficiently contained by the "cap" that the freeway provides.

Response: Contamination under the freeway is unlikely to be significant. EPA has reviewed historical documentation and found that most areas of the site which are under the freeway and Jibboom Street were either outside of the fenced area of Associated Metals, which demarked the extent of disposal activities, or were areas which were used only for storage of items awaiting salvaging. Very little salvaging appears to have been conducted in the covered portions of the site.

According to current engineering standards, the freeway and frontage roads are satisfactory hazardous waste caps. A review of construction details and discussions with the engineer in charge of construction indicates that all technical requirements of a cap for a hazardous waste site containing inorganic contaminants have been met. Up to 20 feet of clean fill was placed over the ground surface, up to 2 inches of concrete and asphalt were placed on top of the fill, the side slopes were planted with vegetative cover for erosion control, and drainage control ditches were installed which carry all surface water offsite for ultimate discharge into the American River. The road surfaces, vegetative cover, and drainage control ditches all receive regular maintenance. The freeway and frontage road will, therefore prevent direct contact with any potentially contaminated soils and will prevent migration of any contaminants by downward percolation of groundwater.

While the covered portions of the site are unlikely to be extensively contaminated, and they are effectively capped, EPA did consider additional remedial measures. EPA performed analysis which showed that the costs of performing any additional remedial work would be exhorbitant and the incremental benefits would be slight. EPA concluded that additional remedial actions for the covered portions of the site were unnecessary and that the cost and difficulty of performing such actions would far outweigh any potential benefits.

OTHER COMMENTS

11. Comment/Question: The concentrations of PCB in the soil may not justify remedial action, and the cancer risk estimates on pages 3-7 through 3-9 of the Feasibility Study are overstated.

Response: EPA agrees that the PCB concentrations may not warrant remedial action. Remedial action at this site is based entirely on concentrations of lead in the soil.

PCB is currently classified category 2B by the International Agency for Research on Cancer, which means that there is limited evidence that the chemical is a carcinogen. The cancer potency from the EPA Carcinogen Assessment Group (which is a 95 percent upper bound estimate) is 4.34 kg-day/mg, which is the estimate that was used in the Feasibility Study. The potential lower bound risk associated with exposure to PCB's is zero.

The risk assessment approach used in the report is consistent with the approach used at other CERCLA sites and with the EPA carcingenicity guidelines (49 Federal Register 46294). As noted in the guidelines, there are major uncertainties in the extrapolations from animal data to humans and from high dose to low dose. As has been noted with other chemicals, different groups of scientists can derive different cancer potencies for the same chemical. These differences may occur because of differences in assumptions and the type of analysis performed on the animal data. The inherent uncertainty in carcinogen risk estimation can lead to more than one valid approach.

A relative risk perspective is provided by the approach used for the Jibboom Junkyard assessment. Because a consistent methodology is applied, the EPA can compare the risks estimated to be associated with exposure scenarios at this site to other CERCLA sites to assist in making a remedial action decision for Jibboom. Furthermore, it is important to note that the remedial actions proposed for Jibboom have been based, primarily, on the lead concentrations in soil rather than the PCB concentrations. Complete removal of PCB's was an added benefit of the lead cleanup objective.

12. Comment/Question: A representative of a community group who was contacted by phone feels that the site does not belong in the National Priorities List because there is no significant contamination offsite. He feels that the Aerojet site and the Sacramento city landfill present more serious problems than the site.

Response: Data from the Endangerment Assessment chapter of the Feasibility Study indicates that the site poses a potential health threat via direct contact with contaminated soils. This site, therefore, requires some kind of response action. Many other sites may also

require response actions. Currently, the Aerojet site, which is on the National Priorities List, and the Sacramento city landfill, are the focus of regulatory agency concerns.

13. Comment/Question: The Reclamation Board of the California Department of Water Resources requires that all projects that might affect the structural or functional integrity of the flood control levee adjacent to the site be reviewed and approved by the Reclamation Board before such projects are begun.

    Response: Based on the conceptual design of the removal alternative, it is not anticipated that removing contaminated soil from the site will affect the structural or functional integrity of the levee. However, during the design of the remedial action alternative, EPA will contact the Reclamation Board to discuss the effect of the recommended alternative on the levee.

EDITORIAL COMMENTS

The following changes should be made to the text of the feasibility study.

14. The acreages of Areas 1 and 2 given on page 2-1 are reversed.

15. The word "virtually" can be taken out of the following statement on page 2-4: "These results show that virtually all surface metals contamination exceeding CAM TTLC levels is limited to Areas 1 and 2." No metal concentrations exceeding TTLC levels were found in Area 3.

REMAINING CONCERNS

There are no remaining concerns known with regard to the recommended remedial action. Any concerns that do arise will be addressed by continued community relations.

LIST OF COMMENTORS

State Agencies

California Department of Transportation, March 5, 1985

California Regional Water Quality Control Board, March 3, 1985

California Department of Water Resources, March 7, 1985

California Department of General Services, March 7, 1985

California Department of Parks and Recreation, March 18, 1985

California Department of Health Services, April 9, 1985

City Departments

Sacramento Department of Planning and Development, March 14, 1985

Sacramento Department of Public Works, March 13, 1985

Others

Pacific Gas and Electric, March 11, 1985

Sacramento Toxic Coalition, March 8, 1985 (phone conversation)

Ives Corporation, March 13, 1985 (phone conversation)

Brown, Nolan and Nickerson, Attorneys at Law, March 7, 1985

George Hampton, March 7, 1985

Marcus Millichap Investment Real Estate Brokers, March 6, 1985

STATE OF CALIFORNIA-BUSINESS, TRANSPORTATION AND HOUSING AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF DIRECTOR
1120 N STREET
SACRAMENTO, CALIFORNIA 95814
(916)445-4495

March 5, 1985

Mr. Nick Morgan
EPA (T-4-3)
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Morgan:

We have reviewed the U.S. Environmental Protection Agency's (EPA) report entitled "Feasibility Study, Jibboom Junkyard, Sacramento, California" and offer the following comments for your consideration:

Area Adjacent to I-5/Frontage Road (2.3 Acres)

The cleanup action selected by EPA should ensure that any surface drainage from the 2.3 acre contaminated site does not flow toward I-5. This will reduce potential surface infiltration through buried surface contaminated soil under the frontage road and freeway embankment.

If the contaminated soil on the 2.3 acres is not removed, protection against any lateral migration of contaminants toward the freeway should be addressed.

The report is unclear as to whether surface soils in the areas between the two frontage roads and the northbound and southbound lanes were analyzed for contamination. If these soils are contaminated, a remedial action should be proposed to protect both the traveling public who may temporarily stop as well as highway workers who may be in the area.

Area Buried Under I-5 and Frontage Roads (6.3 Acres)

Essentially, the embankment and surface pavements provide for a degree of groundwater protection by limiting vertical infiltration. It obviously protects the public from contact with the contaminated soil. Future land use is further restricted because of the transportation system.

The water table could rise and come in contact with any contaminated soil that is beneath the freeway embankment and adjacent frontage roads. Therefore, it may be necessary for EPA to monitor groundwater to verify groundwater quality.

Thank you for the opportunity to comment and for your keeping us informed.

Sincerely,

W. E. SCHAEFER
Deputy Director
Project Development

RECORD OF COMMUNICATION	☒ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE ☐ OTHER (SPECIFY) (Record of item checked above)	
TO: Charles McKinley RWQCB 916-322-9094	FROM: Nick Morgan EPA T-4-3	DATE Mar 15, 1985 TIME 4:00 pm

SUBJECT

Monitoring Requirements at Jibboom

SUMMARY OF COMMUNICATION

1. RWQCB will not require monitoring of gw under the freeway if we implement any of the alternatives listed in the Draft FS.

2. RWQCB will probably not require gw monitoring of the 2.3 exposed acres if we cap or encapsulate, but a final decision will not be made on this matter until STLC results are reviewed.

3. GW monitoring is not being required under the freeway because

   A. There is limited surface area for contaminants to percolate through to the underlying water.

   B. Most of the area is paved.

   C. There are no potable uses of the gw in the area.

   D. There are many other potential sources of contamination in the area.

4. By EPA choosing removal for the final remedial action at this site, we are effectively addressing the 2 concerns that the RWQCB raised in thier comment letter of March 4, 1985.

5. RWQCB is satisfied with the removal alternative.

INFORMATION COPIES
TO:

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, *Governor*

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
CENTRAL VALLEY REGION**

3201 S STREET
SACRAMENTO, CALIFORNIA 95816-7090
PHONE: (916) 445-0270

4 March 1985

Mr. Nick Morgan
U.S. Environmental Protection Agency
Region 9 (T-4-3)
215 Fremont Street
San Francisco, CA 94105

FEASIBILITY STUDY, JIBBOOM JUNKYARD

I have reviewed the subject study and have the following comments regarding further investigation at the site:

1. Soluble Threshold Limit Concentrations (STLC) measurements are needed to determine the threat to ground water from the observed soil contamination. Such sampling could be concentrated in locations where TTLC's exceed CAM levels, primarily in Area 2.
2. Background soil samples, taken on the same side of U.S. Highway 5 and a similar distance from the freeway, may be helpful to indicate if part of the surface lead source could be auto emissions, or if other inherent "background" conditions exist near the site.

The above information would assist in the evaluation of the threat to ground water quality and aid in the selection of adequate remedial measures. If you have any questions, please call me at (916) 322-9094.

CB McKinley

CHARLES B. MC KINLEY
Area Engineer

CBM:jec

STATE OF CALIFORNIA—RESOURCES AGENCY GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF WATER RESOURCES
THE RECLAMATION BOARD
1416 – 9th Street, Room 455-6
Sacramento, CA 95814
(916) 445-9454

MAR 7 1985

Mr. Nick Morgan
U. S. Environmental Protection Agency
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Morgan:

Staff for The Reclamation Board has been notified of the proposed superfund project - draft feasibility study on the Jibboom Junkyard Clean-up Project (SCH 84041617), and has the following comments.

The Jibboom Junkyard is located adjacent to the Sacramento River and the Sacramento River Flood Control Project levee which in this location protects a large urban area including downtown Sacramento.

The flood control project is under the Board's jurisdiction and the Board requires that all plans for construction or other modifications that may affect the structural or functional integrity of the flood control project be reviewed and approved by the Board before start of work. Staff will be glad to assist you in evaluating the potential effects of the clean-up project on the levee.

For additional information about the Board's standards and regulations as well as its application procedures for Approval of Plans, contact Mr. Ted Allen, Encroachment Control Section, Department of Water Resources, 1416 Ninth Street, Room 455-8, Sacramento, CA 95814, telephone (916) 445-9225.

Please include the Board on your mailing list for the Jibboom Junkyard Clean-up Project.

Sincerely,

RAYMOND E. BARSCH
General Manager

cc: Ms. Peggy Osborn
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

DEPARTMENT OF GENERAL SERVICES
OFFICE OF REAL ESTATE SERVICES
650 Howe Avenue
Sacramento, CA 95825-4699
(916) 920-7576

March 7, 1985

Mr. Nick Morgan
EPA T-4-3
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Morgan:

OLD SACRAMENTO PG&E STEAM PLANT
SSL-293

We have received and reviewed the Draft Feasibility Study for the Jibboom Junkyard dated February 1985.

We are in favor of the implementation of Alternative No. 2 to excavate and dispose of the contaminated soils at an off-site land fill. The reasons we are supportive of Alternative No. 2 are:

1. The site is a highly developable and valuable site.

2. The property is located near the City of Sacramento's water source.

3. The location is adjacent to a highly populated metropolitan downtown area.

In our opinion, we feel capping the site would not be a solution that would suffice in correcting the existing situation. We feel there is a definite need to eliminate all present, as well as future, contamination on this property.

Considering the close proximity to the Sacramento water source, it is so important to the environment of the Sacramento community that the site not be capped as it does not ensure against potential future water supply contamination. In addition, capping the site will adversely affect the future land use, diminish the property value and create tremendous problems in the area.

Encapsulating the soils would cost nearly the same as removal, take twice as much time to implement and could cause future problems as the contaminants would still remain on the property even though encapsulated.

We do not see how capping will really eliminate the problem and, consequently, we feel both capping and encapsulating are poor alternatives.

Your consideration and efforts in implementing a complete removal of the contaminants from the site are sincerely appreciated. If I can supply you with additional supportive justification for Alternative No. 2, please feel free to contact me or Paula McGranahan of my staff at the above address or phone number.

Sincerely,

EDWARD R. MILLER
Chief Land Agent

ERM:PPM:dt:A-1.45

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 2390
SACRAMENTO 95811
(916) 324-9067

MAR 18 1985

Mr. Nick Morgan
EPA (T-4-3)
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Morgan:

Our Department has reviewed the report entitled, "Draft Feasibility Study, Jibboom Junkyard, Sacramento, California," which develops and evaluates a number of remedial action alternatives for the cleanup of toxic wastes on this site. As you know, most of this property is owned by our Department and is part of Old Sacramento State Historic Park. Enclosed is a map of our ownership for your information.

It is the opinion of this Department that Alternative 2, excavation and removal of contaminated soils, is the most appropriate measure for cleanup. It is further recommended that the Environmental Protection Agency take action to accomplish the necessary work at the earliest possible time.

Our position is based upon what we feel is in the greatest ultimate public interest. Access to and development of the Sacramento waterfront has been increasing dramatically in recent years and is expected to continue. The City of Sacramento has developed a public bike path on the levee immediately adjacent to the site which is heavily used. In addition, this area along the river is a very popular location for use by fishermen. Public use has also been increasing due to recent nearby hotel developments and new residential developments just to the north of town. All of these uses are expected to continue regardless of the future development of the remainder of the site, which is uncertain at this time. Development could occur which may intensify the probability of public contact with contaminated soils. Although groundwater contamination does not appear to be a major concern at this time, the potential for harm to visitors to Old Sacramento State Historic Park and to all inhabitants of this, the State Capitol, is not worth taking the risk. We should use this opportunity to remove as much of the contaminants as possible before build-out of this area prohibits this opportunity in the future.

The reason I say future development is uncertain is because all of our ownership north of the "I" Street Bridge has been declared surplus to our need. This involves approximately 9 acres all together. Legislation was passed in 1982 which authorizes the exchange or sale of the property (Chapter 1266, Statutes of 1982). Our intent is to dispose of most of

the property through a public sale. An appraisal is currently being prepared by the Department of General Services, Office of Real Estate Services. They are proceeding under the assumption that the site will be clear of toxic waste contamination. It is anticipated that they will be in a position to receive bids on the property by early May. As you can see, we would be very interested in learning of your specific schedule as well as method of cleanup as soon as possible. Alternative 2 would also be the most desirable for the purpose of disposing of the property since it imposes the least amount of restrictions to future use.

Thank you for this opportunity to comment on the study. The contact person from our Department is Mr. Jim Quayle. He may be reached at (916) 445-9299 or at the address shown above.

Sincerely,

Wm. S. Briner
Director

Enclosure

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
SACRAMENTO, CA 95814
(916) 324-2443

Keith Takata
Chief, Superfund Programs Branch
U.S. Environmental Protection Agency
Region 9
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Takata:

We have reviewed the draft feasibility study for the Jibboom Junkyard located in Sacramento. Our comments are included herein. Overall the study is thorough, covering the feasible alternatives.

The Department recommends and supports either one of the Number 2 alternatives - excavation and redisposal of the contaminated soil at an approved hazardous waste landfill. All other agencies and interested parties who have contacted the Department concerning the site have recommended this alternative highly.

Based on the Department's interpretation of the results of the sampling program, it may not be necessary to excavate as great a quantity as indicated in your contractor's cost estimates. Further, as you know the contaminated material may need to be taken to a double lined landfill in accordance with recent EPA policy requirements. Available facilities must be identified prior to the initiation of cleanup.

Discussions have been held with the Central Valley Regional Water Quality Control Board concerning the installation of groundwater monitoring wells. Since the sampling program has shown that the contaminated material is mostly all contained in the upper one foot of soil neither the Department nor the Regional Water Quality Control Board believe that monitoring wells will be necessary if the excavation and removal alternative is chosen as the cleanup alternative. Accordingly, we would not support the installation of such wells.

Enclosed are the results of the additional testing of samples from the Jibboom Junkyard site for the Soluble Threshold Limit Concentrations (STLC) for lead, copper, and zinc. The concentrations exceed the levels which are considered hazardous by the Department.

APR 09 1985

We are available to assist you where possible in the initiation of an expeditious cleanup of the Jibboom Junkyard site. For further assistance, please contact me at (916) 324-2443 or Mike Golden at (916) 324-2426.

Sincerely,

Thomas E. Bailey, Chief
Program Management Section
Toxic Substances Control Division

Enclosure

cc: James Allen
Jack DelConte

CITY OF SACRAMENTO
CALIFORNIA

OFFICE OF THE
CITY MANAGER

CITY HALL
915 I STREET - 95814
(916) 449-5704

March 15, 1985

Nick Morgan
E.P.A. (T-4-3)
215 Fremont Street
San Francisco, CA 94105

RE: "FEASIBILITY STUDY, JIBBOOM JUNKYARD SACRAMENTO, CALIFORNIA"

Dear Mr. Morgan:

This letter is to serve as the City's official comment on the above entitled report. Several City departments have reviewed and offered comments concerning the alternatives identified by your agency to mitigate the soil contamination on the subject site.

Of the four alternatives discussed in your report only Number 2 is viewed as acceptable to the City since this alternative would eliminate human contact with hazardous materials and entirely prevent the potential of ground water contamination in the future. Additionally, this alternative greatly enhances the future potential uses of the property for urban purposes.

I am attaching copies of responses from two City departments which provide a more detailed review of alternatives included in your study.

Please refer any questions that you may have on the City's position on this matter to this office. Thank you for your assistance on this matter.

Solon Wisham Jr.

SOLON WISHAM, JR.
Assistant City Manager

Attachments

cc: Walter J. Slipe, City Manager
Mac Mailes, Director of Planning & Community Development
Mel Johnson, Director of Planning & Development
Bill Powell, Fire Chief
Christine Olsen, Public Information Officer
Dick Troy, State Parks
Andy Plescia, Acting Executive Director, SHRA

CITY OF SACRAMENTO

DEPARTMENT OF PLANNING AND DEVELOPMENT
927 10th Street Sacramento, Ca. 95814

Administration
Room 200 449-5571
Building Inspections
Room 100 449-5716
Planning
Room 300 449-5604

March 14, 1985

TO: Solon Wisham, Jr. Assistant City Manager

FROM: Mac Mailes, Director of Planning and Development

SUBJECT: DRAFT FEASIBILITY STUDY - JIBBOOM JUNKYARD

This hazardous site is in a location of obvious concern. The site is exposed to wind and rain, enabling off-site migration of toxic wastes. Relatively unencumbered accessibility creates nuisance, and increases the public health threat.

As a solution to the problems at the Jibboom Junkyard site, environmental staff supports the excavation and removal of the contaminated soils with soil replacement, regrading, and revegetation. Of the four cleanup alternatives proposed in the draft study, Alternative Two is the only measure that will accomplish these goals. The following is a brief assessment of each of the four measures:

ALTERNATIVE ONE: CAP CONTAMINATED AREA

The EPA study indicates that this method would eliminate human contact with the contaminates and reduce the infiltration of water into the soils. This method offers no assurances that the clay or synthetic cap will not later be permeated or breached either by natural forces or by development of the site. Operation and maintenance would be required indefinitely with this alternative, thereby probably significantly increasing the total estimated cost. New federal regulations would require the installation of a double artificial lining with a leachate collection and monitoring system, should this method be chosen. The added cost of complying with these new regulations does not appear to be a part of the feasibility cost estimate for Alternative One.

ALTERNATIVE TWO: EXCAVATE CONTAMINATED SOILS

The EPA study indicates that this method would eliminate human contact with the hazardous materials, and entirely prevent the potential for groundwater contamination. This method fully mitigates the problem. All toxic wastes are removed and future use of the site would not be a potential public health hazard. There would be no associated operation and maintenance costs.

Environmental staff strongly supports this alternative because it provides complete protection to the public from water, air, and land contamination.

ALTERNATIVE THREE: ENCAPSULATE CONTAMINATED SOIL

The EPA study indicates that this method would have the same effects as Alternative One. This method lacks the same comprehensive and permanent public protection as Alternative One.

ALTERNATIVE FOUR: NO ACTION

This alternative does not address the public health and safety threat that has been identified at the Jibboom Junkyard site, nor does it accomplish the goals of the EPA remedial action plan.

Environmental staff does not support this alternative because inaction would continue to expose the City's water source to potentially dangerous contamination. This water serves more than 275,000 City residents. In addition, public exposure to airborne and earth-laced toxic elements would continue.

Only Alternative Two provides a complete, comprehensive, permanent, cost-effective, environmentally cognizant solution to this situation. Alternatives One and Three are band-aid remedies that offer no long term guarantee for protection of the City's water source, and may eventually be more expensive than implementing Alternative Two today. Alternative Four is simply unacceptable.

cc: Marty Van Duyn
Clif Carstens

CITY OF SACRAMENTO

DEPARTMENT OF PUBLIC WORKS

DIVISION OF WATER AND SEWERS

LARRY L. COMARSH
Division Manager

March 13, 1985

MEMORANDUM

TO: Solon Wisham, Jr., Assistant City Manager

SUBJECT: ALTERNATIVE MITIGATION MEASURES - JIBBOOM JUNKYARD

Per your directive to Mel Johnson dated March 11, 1985, I have been instructed to comment on the alternative mitigation measures presented in the Draft Feasibility Study performed for the U.S. EPA by the consulting engineering firm CH2M Hill.

The Draft Feasibility Study eliminated two alternatives during the screening process. These were the no-action alternative and the restriction of future land use and site access. The City should concur with the elimination of these alternatives.

The remaining alternatives to mitigate the adverse effects of the presence of unacceptable levels of hazardous chemicals in the soil at the site include:

A. Capping the contaminated area.
B. Encapsulating the contaminated area.
C. Excavation and removal of contaminated soils.

The City's concerns in recommending the selected alternative are: 1. Protection of future groundwater and surface water quality. 2. Protection of the health of our citizens in this high use corridor. 3. The preservation of unrestricted future use of the property. 4. Preservation of property values in the area.

A. The Capping Alternative. (CH2M Hill Alt. 1)

This alternative consists of capping the contaminated area with either a flexible membrane, fine clay, or asphalt at a cost of between $363,000 - $468,000. The City should ask that this alternative be rejected. If this alternative were adopted, the material would be left in place with no guarantees that future groundwater contamination would not occur. This alternative

would require extensive future monitoring and maintenance costs. Future land use would be restricted and nearby property values could be negatively impacted. Clearly this alternative is unacceptable.

B. The Encapsulation Alternative (CH2M Hill Alt. 3)

This alternative consists of excavating the contaminated soil, temporarily stockpiling it while the site would be prepared with clean fill and graded, placing a flexible membrane, replacing the excavated contaminated soil on the membrane, and wrapping the membrane around the layer of contaminated soil completely encapsulating it. This alternative would cost $1,097,000 including 30 year present worth O & M costs. This alternative is unacceptable to the City for the same reasons as was the capping alternative. In addition, the reliability of such a flexible membrane is unclear. Burrowing rodents have rendered such systems useless in many documented instances.

C. The Excavation - Removal Alternative (CH2M Hill Alt. 2)

This alternative consists of excating all contaminated soil at the site and transporting it to a class I landfill site for disposal. The costs are estimated to be between $1,089,000 and $1,593,000 depending on the location of the disposal site. This is the only alternative which will acceptably protect the City's interests in preserving water quality and the future unrestricted use of the area. Although it will result in temporary adverse impacts associated with the project, selection of this alternative will insure that the property values in the area will not decline. Staff has contacted toxic waste specialists with the State of California Department of Health Services and they have also stated that the only acceptable mitigation measure for the Jibboon Junkyard Site is the excavation alternative.

It is strongly recommended that the City's comments to the U.S. Environmental Protection Agency reflect the position that the only acceptable mitigation measure presented in the Draft Feasibility Study on the Jibboon Junkyard is the excavation alternative.

Thank you for the opportunity to comment on this matter.

Sincerely,

Lee J. Harry
Assistant Superintendent - Water Production Facilities

916 449-5366

cc: Mel Johnson, Director of Public Works

PACIFIC GAS AND ELECTRIC COMPANY

PG&E 77 BEALE STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 972-2733 • TWX 910-372-6587

H. M. HOWE
CHIEF SITING ENGINEER

March 11, 1985

Mr. Nick Morgan
U.S. Environmental Protection Agency
Region IX (T-4-3)
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Morgan:

Comments on "Draft Feasibility Study, Jibboom Junkyard, Sacramento, California"

PGandE's comments on the "Draft Feasibility Study, Jibboom Junkyard, Sacramento, California," are given below. Although the EPA announcement regarding the availability of the study requested that comments be postmarked by March 7, 1985, it is our understanding from a March 7th telephone conversation between Ms. K. L. Uhlir of PGandE and Ms. Patricia Post of EPA that it would be acceptable for us to deliver our comments to EPA on March 11, 1985. We appreciate this accomodation and hope that our comments prove valuable.

Our comments on the draft report are:

1. Acreages given on page 2-1: The acreages of Areas 1 and 2 given on page 2-1 should be reversed.

2. Statement about metal contamination on page 2-4: Since there were no metal concentrations exceeding TTLC levels in Area 3, the word "virtually" should be deleted from this sentence on page 2-4: "These results show that virtually all surface metals contamination exceeding CAM TTLC levels is limited to Areas 1 and 2...."

3. Public health assessment for PCB's (page 2-4; 3-4 through 3-10): The authors conclude that the presence of copper, lead, zinc and polychlorinated biphenyls, in their respective concentrations, pose a hazard to human health (pages 2-4 and 3-9). We agree that, based on current regulatory guidelines and limits, the soils contaminated with those metals constitute hazardous waste and may pose a health hazard. However, the concentrations of PCB alone may not justify remedial action.

We believe the cancer risk estimates for PCB's (pages 3-7 through 3-9) are overstated. These estimates were based on the high end

(median to maximum) of PCB concentrations in the soil and on "the upper boundary of risk associated with a given exposure" (page 3-7). Thus, the range of risk estimates reflects only the upper bounds of risk associated with worst case scenarios. A corresponding lower range of risk estimates should be included in describing the actual hazards from PCB soil contamination at the site.

As an additional note in this area, we believe the cancer estimates in the Jibboom study are inaccurately represented as absolute values. Attached is a report summarizing various risk extrapolations for PCB's using different risk models and applied by various federal agencies. The report discusses the relative strengths and weaknesses of various models and clearly indicated the relative, not absolute, value models and clearly indicates the relative, not absolute, value of risk estimates. A comparison of the Jibboom data and that of the Food and Drug Administration (FDA) and Office of Technology Assessment(OTA) (see Table 8, page 42 in the attached federal report and Table 3-3, page 3-8 of the Jibboom report) reveals that for the equivalent extra lifetime cancer risk, the dosages given by FDA and OTA are approximately 10 times and 700 times higher than the PCB dosage in the Jibboom report. The OTA risk assessment was based on the most conservative one-hit model (see Table 7, page 41 in the attached report). This comparison of data and risk models underscores the fact that while risk estimates are valuable to an extent, they should not and cannot be represented as absolute values. The application of different risk models to the same data set can dramatically affect the conclusions reached.

4. Remedial action alternatives (Chapter 5): It seems inconsistent to discuss the removal of all or part of the 5.1 Ac parcel when the material beneath the Interstate 5 freeway is accepted as being contained. There is one additional remedial action alternative which should be considered. This option would be to require that the area be used for commercial development with stipulation that the site be covered with a concrete base or foundation (that is, a building or parking lot). Superfund monies would then be conserved for other projects. Alternatively, to eliminate any potential immediate exposure to the contaminants on the site, the site could be covered as soon as possible, with the associated costs included in the value of the property when it is sold. The draft report indicates that there are interests in developing the site (page 6-8).

If you have any questions on these comments, please contact Ms. K. L. Uhlir at (415) 972-6911).

Sincerely,

H M Hour J M Kenzie

RECORD OF COMMUNICATION	☒ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE ☐ OTHER (SPECIFY) (Record of item checked above)	
TO: John Stoll Sacramento Toxics Coalition 916-482-9162	FROM: Nick Morgan EPA T-4-3	DATE: March 8, 1985 TIME: 10:00 am

SUBJECT
Jibboom FS Comments

SUMMARY OF COMMUNICATION

1. I called to see if the STC had any comments on the Jibboom FS since the public comment period had just closed.

2. John had met with Patti Post in Congressman Isenbergs office sometime last year and at that time John gave his feelings on Jibboom. STC still feels that this site does not belong on the NPL and is not worth the time and effort that we are putting into it. John would much rather see our time and effort put into the Aerojet site.

3. Because there is no signifigant contamination at the site or any off site contamination, the STC is not too concerned about the site. I stated that I disagreed and that I felt the levels of metals at the site, in the 10,000 ppm range, was signifigant contamination. He agreed and stated that he was defining signifigant as meaning off site contamination.

4. STC feels that the city landfill is probably worse than the Jibboom site.

5. EPA should not expect any written comments from the STC.

INFORMATION COPIES
TO:

RECORD OF COMMUNICATION	☒ PHONE CALL ☐ DISCUSSION ☐ FIELD TRIP ☐ CONFERENCE ☐ OTHER (SPECIFY) (Record of item checked above)	
TO: Everett Hemphill Ives Corporation (President) 602/855-7902	FROM: Nick Morgan T-4-3	DATE Mar 13, 1985 TIME 10:00

SUBJECT

JIBBOOM JUNKYARD FEASIBILITY STUDY

SUMMARY OF COMMUNICATION

1. Everett is very interested in developing the site. His firm has invested several hundred thousand dollars and several years in getting together a development plan for the site. His plan includes; one overnight $45 m steamboat (four day cruise to S.F.), one $15 m day trip steamboat, marina, narrow gauge steam train to Old Sac, 16 story parking strucyure & office building, 30+ story Hilton, an additional parking structure, and some kind on mountain scene screen. He considers this information confidential and I should not share this info with others.

2. I described the findings of the FS; metals contamination throughout site to between six inches and one foot. PCB's below action levels. Contamination to 5 of 10 feet at three locations. For final RA we are looking at no action, capping, encapsulation, and removal, with the latter costing between 1.1 and 1.6 million dollars.

3. Everett stated that his firm is strongly in favor of removal. This is especially a concern, since he intends to develop the site and if we were to cap or encapsulate, he would just have to pay for removal of the cap and then go ahead and excavate the contaminated material anyway. Therefore, it would be wasteful to spend the effort for capping the site when the contaminants will just be removed in a short while anyway.

4. Everett had an estimate of approx $500,000 for the removal based of the DOHS estimate. I informed him that we used a higher disposal cost than the DOHS estimate (we used $90-95/ cu yd) and that disposal costs were variable based on situations at the time of disposal. However, it is likely that removal would cost closer to the DOHS estimate if a private party were to do the work. For Everett, the only cost to do the cleanup himself would be the additional cost of trucking and disposing of the wastes in a Class 1 facility, since he would already have to do major earth moving in order to develop the site.

5. Everett met with Patti Post (T-1) several years back and thought he would be included in he FS mailing and public comment period. Since Patti failied to inform him of the comment period, and he is out of stata, could I send him acopy of the FS ? I said I would considering the circumstances, but that this was not the standard procedure, given the limited number of copies available.

6. Everett will be out to make a presentation to state and other officials in about 45 days. He will get in touch with me then to invite me to the presentation.

7. Mailing address is: P.O. Box 708
   Lake Havasu City, AZ 86403

INFORMATION COPIES TO:

THE OFFICES OF
BROWN, NOLAN & NICKERSON
ATTORNEYS AT LAW

STEVEN W. BROWN
THORPE E. NOLAN
WILLIAM J. NICKERSON, JR.

PLEASE REPLY TO:
ENCINITAS

FILE NO. _____

542 SANTA FE DRIVE
ENCINITAS, CA. 92024
(619) 942-8205
or
(619) 753-8944

7742 HERSCHEL AVE.
SUITE J
LA JOLLA, CA. 92037
(619) 456-1290

TELEX: 140414 TRT

March 7, 1985

Mr. Nick Morgan
EPA T-4-3
215 Freemont Street
San Francisco, CA 94105

RE: Cleanup of former PG&E Property in Old Sacramento, California

Dear Mr. Morgan:

This office represents a developer with interest in acquiring the above referenced property (which has been the subject of a recent EPA feasibility study). We have only today received a summary of your agency's report from the State of California along with a cover letter advising that the public comment period ends today.

This letter is being written in the hopes that you will receive it despite the official deadline. As should be apparent, we have hardly had the time to respond earlier.

After review of the summary, it is our opinion that any activity short of excavation and removal of the contaminated soils will negatively affect the marketability of the land in question. From a developer's perspective, should a proposed project require shoring, pilings, etc., nothing less than excavation today will make sense. Merely capping the site will pass on the excavation costs to the

prospective developers and effectively rule out those who cannot make those added costs "pencil out". In other words, the site will only be saleable to those developers not needing to pierce the cap. Furthermore, if the capping "solution" is selected, there will always remain an adverse public opinion towards the area. Will the containment not filter into the water table anyway? Will the public want to live above or patronize any establishment standing on top of a capped toxic waste? Can a developer make a viable project in the face of such negatives? Surely not.

We urge you, therefore, to take the only sensible solution: **remove** the contaminants!

We thank you in advance for your consideration of our comment.

Sincerely,

Steven W. Brown

dlb

March 6, 1985

Mr. Nick Morgan
E.P.A.
215 Fremont Street
San Francisco, California 94105

Dear Mr. Morgan:

We are interested in developing a project on the former PG & E Steam Plant site in Old Sacramento. It has come to our attention that contaminated soils on the land could pose a danger to human life.

We strongly recommend the removal of this contaminated soil to an off-site land fill area. Capping with clay or asphalt is a cover-up solution a developer may be likely to disturb.

As potential owners of this property we wish to be reassured that future soil contamination will not occur. We appreciate your consideration of this serious problem and hope you will keep us updated of your decision.

Thank you,

George C. Hampton

GCH/gd

Marcus & Millichap

Investment
Real Estate Brokers

1500 River Park Drive
Sacramento California 95815
916 929 1900

March 6, 1985

Mr. Nick Morgan
E.P.A.
215 Fremont Street
San Francisco, California 94105

Dear Mr. Morgan:

This letter concerns the property located at the former PG & E Steam Plant in Old Sacramento. As potential owners of the property we need to be assured that future ground water contamination and PCBs' in the soil will be taken care of in a way that there will be no future complications at a later date.

We strongly recommend removal of the contaminated soils, and that they be disposed of at an off-site land fill area. We feel that capping the site is a cosmetic solution which future complications can arise if a developer were to disturb the cap. We want to be assured that the site we are seriously considering will not pose a threat or hazard to human health.

Looking forward to hearing from you regarding your decision on what alternatives you have chosen in this serious matter.

Sincerely,

MARCUS & MILLICHAP, INC. OF SACRAMENTO

Walter R. Helm

WRH/ks